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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,226	02/16/2001	John G. Apostolopoulos	10006736-1	2518
7590 03/11/2004				
HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400			EXAMINER QURESHI, AFSAR M	
			ART UNIT 2667	PAPER NUMBER 10

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,226

Applicant(s)

APOSTOLOPOULOS ET AL.

Examiner

Afsar M Qureshi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15, 17-19 and 23-34 is/are rejected.
- 7) ☒ Claim(s) 9, 16 and 20-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Responsive to amendment /REMARKS, received on February 17, 2004, the Examiner noted that applicant elected 'a local area network' from a group consisting of a plurality of alternative elements, in claims 10 and 17. However, the Examiner noted that the application claims 10 and 17 were not amended accordingly.

Appropriate correction of said claims is requested.

2. In view of the above election the rejection of claims 10 and 17, under 35 USC 112, 1st paragraph, is withdrawn.

3. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

4. Claims 1-8, 11-15, 18, 19, and 23 - 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Perkins et al. (US Patent No. 6496477).

Claims 1-3, 8, 12 and 13. Perkins teaches: a sender 103 and receiver

105 communicating data packets in a network where the packets take a plurality of paths to arrive at the destination (Col 6, lines 20-24) and (Figure 1), and a further description of the separate path selection diversity process (Col 9, lines 60-65), and two path selection process for packet flows (Col 10, lines 50-55) and further explained (Col 12, lines 25-30), where data is sent to the source regarding

the path diversity scheme to be employed prior to the sending of data amongst diverse paths to a destination node (Col 13, lines 14-22).

Perkins further discloses an adaptive software module that dynamically picks paths based on QoS (*communication conditions*) (see col. 8, lines 45-49 and col. 19, lines 4-12).

Claims 4, 7, and 19 A router 1011 is used as an intermediate state routing device to assist and maintain the path diversity routing scheme employed by source and destination nodes (Col 23, lines 35-40) and (Figure 10).

Claims 5, 6, 23-25 and 29 An application is used to determine efficient path diversity by learning intermediate nodes and using QoS parameter for considerations to establish dynamic paths in a deterministic fashion (Col 16, lines 32-60).

Claims 11 and 18 Perkins teaches: real-time information as a data type extendible for the invention herein (Abstract) and more specifically to voice (Col 4, line 19).

Claim 14 Perkins teaches: a pair of relay agents 1021 and 1031 of diverse paths (Col 23, lines 45-50), and it is inherent to have a packet sent to a proxy device by way of an address.

Claim 15 Perkins teaches: all of the above embodiments and an IP compatibility (Col 24, lines 5-16).

Claim 26 Perkins teaches: a plurality of ISPs with redundant links working with the path diversity mechanism (Col 4, lines 63-67).

Claim 27 Perkins teaches: connection technologies of both wireless and wired (Figure 1).

Claim 28 Perkins teaches: the use of satellite, wireless, cellular and different corresponding mediums all being potential links for communication within the embodiment disclosed herein (Col 5, lines 40-51).

Claims 30 and 31 Perkins discloses that voice codecs utilize packetization schemes employing Forward Error Correction Coding (see col. 1, lines 35-44) and employing interleaving coded speech over a number of packets (see col. 6, lines 9-17).

Claim 32 Perkins employs path-hopping path diversity (see Abstract col. 4, lines 18-29).

Claim 33 Perkins discloses that the packets are assigned to paths based on real-time information (deterministic fashion) (see Summary col. 2, lines 19-25).

5. Claims 10 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al. (US Patent No. 6496477) in view of Narayanaswami et al. (US Patent No. 6477117).

Perkins teaches: all of the above embodiments of a path diversity network with the goal of improving the reliability of sensitive/realtime type data flow for a plurality of different data sources including: a wireless phone, a computer a switch router, and an interface to the PSTN network all networked together (Figure 1). But fails to teach of compatibility for wireless LAN, and more specifically the wireless protocols to include Bluetooth and 802.11. Narayanaswami teaches: a device that acts in a "PC-like" functionality to be worn on the wrist for convenience (Col 2, lines 15-16) and to interact

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with data exchanging network functions with devices such as: a mobile computer, a PC, and other wireless devices (Col 3, lines 30-33), and to conform to the standards of wireless LAN and wireless networking of Bluetooth and 802.11 (Cols 4-5, lines 65-3), and as is said to be a motivation for creating such a device to provide these functions at the face of a watch (Cols 1-2, lines 65-5). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the use of a multi-path networking scheme used for PCs or computers both wired and wireless to a wireless PC-like device that interacts with wireless networking protocols for added functionality and maintained flexibility with emerging technology standards.

6. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Gilhousen et al. (US 5,109,390).

Perkins does not specifically disclose wherein the receiver tracks the communication quality of each path and communicates it to the sender for use in optimizing the transmission.

However, Gilhousen et al. disclose a diversity receiver that tracks the above information and provides it to diversity combiner (see col. 7, lines 36-48).

Therefore it would have been obvious to one skilled in the art, at the time of invention, to modify the computer receiver 105, disclosed by Perkins by incorporating the diversity receiver features of Gilhousen et al. in order to improve the correlation process so that discrimination against one of the paths can be achieved.

Allowable Subject Matter

7. Claims 9, 16, 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed on February 17, 2004, have been fully considered but they are not persuasive. The applicant argued that "Perkins does not appear to teach "dynamically changing path diversity during transmission based on the communication conditions between the sender and a receiver", page 12 of the amendment. This argument was already addressed, by the Examiner, in the prior Office action (11/13/2003). To further clarify, Examiner contends that the adaptive software module (col. 19, lines 4-12) dynamically changes the path diversity during the burstiness of data, i.e., during transmission (see col. 7, lines 51 through col. 8, lines 1-15, figure 2). Applicant further argued "basing the dynamic changes on communication conditions between the sender and a receiver during transmission is not the same as a predetermined QoS parameter". In the absence of **specific** communication conditions, the Examiner broadly interpreted the communication conditions, of claim 1, as 'predetermined QoS parameter', which is broadly considered one of the communication conditions needed for the successful transmission.

Applicant's arguments with respect to claims 10 and 17, in a prior amendment (9/8/2003) have been considered but are moot in view of the amended claims. The

Examiner believes that the rejection of claims 10 and 17, in paragraph 6 above, is clearly disclosed by the cited art.

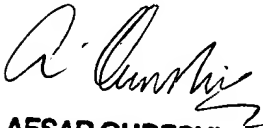
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (703) 308 8542. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305 4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AFSAR QURESHI
PATENT EXAMINER

March 4, 2004